# SSP 39-010, “Asphalt Concrete” (RAP portion, paragraphs 10-23)

Use paragraphs 10-23 on all projects that require SSP 39-010. Do not edit.

## RECLAIMED ASPHALT CONCRETE

**10**

The Contractor may produce asphalt concrete using reclaimed asphalt pavement (RAP). Asphalt concrete produced using RAP shall conform to the provisions for asphalt concrete in this section, "Asphalt Concrete," and these special provisions. The Contractor may substitute RAP for a portion of the virgin aggregate in asphalt concrete in an amount not exceeding 15 percent of the asphalt concrete dry aggregate mass.

**11**

RAP shall be processed from asphalt concrete removed from pavement surfaces. RAP shall be stored in stockpiles on smooth surfaces free of debris and organic material. RAP stockpiles shall consist only of homogeneous RAP. The Contractor may process and stockpile RAP throughout the project's life. Processing and stockpiling operations shall prevent material contamination and segregation.

**12**

The Contractor shall determine the amount of asphalt binder to be mixed with the combined virgin aggregate and RAP in conformance with California Test 367 amended by Lab Procedure-9 (LP-9), "Asphalt Concrete Using Up To 15% Reclaimed Asphalt Pavement (RAP)." LP-9 is available at:

http://www.dot.ca.gov/hq/esc/Translab/fpmlab.htm

**13**

At least 3 weeks before starting production of asphalt concrete using RAP, the Contractor shall submit a proposed asphalt concrete mix design in writing to the Engineer. The mix design submittal shall consist of the following:

A. RAP:

1. Processed stockpile locations.
2. LP-9 test results.
3. Correlation factor for aggregate gradations from California Test 382 and LP-9.
4. Three 70-pound samples of processed RAP representing the material to be used. The three samples shall be split from the sample the Contractor uses to determine the mix design. The Contractor shall obtain and split the samples in conformance with the requirements in California Test 125 and LP-9.
5. The substitution rate for virgin aggregate and percent RAP.

B. Virgin aggregate and supplemental fine aggregate blend:

1. Percent passing target values for each sieve size.
2. Aggregate quality tests results.

3. Each aggregate source to be used including producer, location, and California Mine Identification number.
4. Percentage of each aggregate stockpile, cold feed, and hot bin to be used.
5. Gradation of each aggregate stockpile, cold feed, and hot bin to be used.

C. Asphalt binder:

1. Source.
2. Material Safety Data Sheets.

D. Antistrip additives**,** if used:

1. Name of product.
2. Name of manufacturer.
3. Proposed rate.
4. Location and method of addition.
5. Material Safety Data Sheets.

E. Asphalt concrete:

A. A completed mix design that reflects the percent of RAP to be used including the electronic worksheet identified in LP-9.
B. In graphical format, stability and air voids versus asphalt binder percentage of asphalt in conformance with the requirements in CTM 367.

**14**

Asphalt concrete production using RAP shall not begin until the Engineer approves the mix design. If the Engineer fails to review the mix design in 3 weeks, and if, in the opinion of the Engineer, work completion is delayed as a result of the failure to review, the Engineer will adjust payment and contract time in conformance with the requirements in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

**15**

If proposing a change in the RAP substitution rate, the Contractor shall notify the Engineer. If the substitution rate changes more than 5 percent by dry aggregate mass in the asphalt concrete mixture, the Contractor shall submit a new mix design.

**16**

The aggregate gradation for the asphalt concrete produced with RAP shall be calculated based on the mathematical combination of the virgin aggregate gradation during production and the daily RAP gradation. RAP shall be sampled and gradation shall be determined in conformance with the requirements in LP-9. RAP gradations shall be:

A. Determined daily by the Contractor.
B. Used for the mathematical combination of that day's asphalt concrete production.
C. Reported to the Engineer.

**17**

The Contractor shall perform quality control testing of the RAP source each day asphalt concrete using RAP is produced.

**18**

The Contractor shall perform quality control testing of the aggregates and the asphalt concrete mixture at least once for every 1000 tons of asphalt concrete using RAP produced, but not less than 2 tests per day.

**19**

Daily, the Contractor shall submit to the Engineer:

A. Results for RAP gradation and the asphalt binder content in RAP determined in conformance with the requirements in LP-9.
B. Virgin aggregate gradation.
C. Mathematical calculation of the gradation of the virgin aggregate and RAP aggregate blend.
D. Correlation factor for RAP burn-off determined in conformance with the requirements in LP-9.
E. The asphalt concrete mixture's asphalt binder content for that day.

**20**

RAP proportioning shall conform to the provisions for aggregate proportioning specified in Section 39-3.03, "Proportioning," of the Standard Specifications and these special provisions. The Contractor's mixing equipment shall have a device that safely provides a sample representative of the virgin aggregate and RAP incorporated into the asphalt concrete. The Contractor shall sample in conformance with the requirements in California Test 125 and LP-9.

**21**

The temperature of asphalt concrete using RAP shall not exceed 330 °F.

**22**

If batch mixing is used, RAP shall be kept separate from the virgin aggregate until both ingredients enter the weighhopper or pugmill. After introduction to the pugmill and before asphalt binder is added, the mixing time for the virgin aggregate and RAP shall not be less than 5 seconds. After asphalt binder is added, the mixing time shall not be less than 30 seconds.

**23**

If continuous mixing is used, the RAP shall be protected from direct contact with the burner flame with a device such as a shield, separator, or second drum.